



ICAO ENGINE EXHAUST EMISSIONS DATA SHEET

SUBSONIC ENGINES

ENGINE IDENTIFICATION: GE90-113B BYPASS RATIO: 7.2
 UNIQUE ID NUMBER: 7GE098 PRESSURE RATIO (π_{00}): 41.2
 COMBUSTOR: DAC
 ENGINE TYPE: TF RATED THRUST (F_{00}) (kN): 504.9

REGULATORY DATA **** DATA SUPERSEDED **** SEE FOLLOWING UID FOR REVISED DATA: **21GE183**

CHARACTERISTIC VALUE:	HC	CO	NO _x	SMOKE NUMBER
D _p /F ₀₀ (g/kN) or SN	8.0	58.4	75.8	5.0
AS % OF ORIGINAL LIMIT	40.6	49.5	61.9	32.9
AS % OF CAEP/2 LIMIT (NO _x)			77.4	
AS % OF CAEP/4 LIMIT (NO _x)			84.7	
AS % OF CAEP/6 LIMIT (NO _x)			93.1	
AS % OF CAEP/8 LIMIT (NO _x)			104.5	

DATA STATUS

- PRE-REGULATION
 x CERTIFICATION
 - REVISED (SEE REMARKS)

TEST ENGINE STATUS

- NEWLY MANUFACTURED ENGINES
 x DEDICATED ENGINES TO PRODUCTION STANDARD
 - OTHER (SEE REMARKS)

EMISSIONS STATUS

x DATA CORRECTED TO REFERENCE
 (ANNEX 16 VOLUME II)

CURRENT ENGINE STATUS

(IN PRODUCTION, IN SERVICE UNLESS OTHERWISE NOTED)
 x OUT OF PRODUCTION (DATE: -)
 - OUT OF SERVICE (DATE: -)

MEASURED DATA

MODE	POWER SETTING (%F ₀₀)	TIME (minutes)	FUEL FLOW (kg/s)	EMISSIONS INDICES (g/kg)			SMOKE NUMBER
				HC	CO	NO _x	
TAKE-OFF	100	0.7	4.530	0.03	0.08	47.74	3.9
CLIMB OUT	85	2.2	3.580	0.03	0.07	35.08	2.4
APPROACH	30	4.0	1.110	0.06	2.11	16.20	1.4
IDLE	7	26.0	0.380	4.37	39.72	5.16	0.9
LTO TOTAL FUEL (kg) or EMISSIONS (g)			1518	2608	24007	33006	-
NUMBER OF ENGINES				1	1	1	1
NUMBER OF TESTS				3	3	3	3
AVERAGE D _p /F ₀₀ (g/kN) or AVERAGE SN (MAX)				5.2	47.6	65.4	3.9
SIGMA (D _p /F ₀₀ in g/kN, or SN)				0.1	0.5	1.0	1.0
RANGE (D _p /F ₀₀ in g/kN, or SN)				5.04-5.27	47.12-48.06	64.29-66.21	3.13-5.07

ACCESSORY LOADS

POWER EXTRACTION 0 (kW) AT - POWER SETTINGS
 STAGE BLEED 0 (% CORE FLOW) AT - POWER SETTINGS

ATMOSPHERIC CONDITIONS

BAROMETER (kPa)	97.1-97.9
TEMPERATURE (K)	290.7-294.2
ABS HUMIDITY (kg/kg)	0.00514-0.00761

FUEL

SPEC	Jet A-1
H/C	1.94-1.96
AROM (%)	11.9-12.5

MANUFACTURER: General Electric Company
 TEST ORGANIZATION: Peebles Test Operation
 TEST LOCATION: Site 4D
 TEST DATES: 23/11/2003-23/11/2003

NO_x REGULATION PARAGRAPH

	2.3.2 c) (CAEP/4)
x	2.3.2 d) (CAEP/6)
	2.3.2 e) (CAEP/8)

REMARKS

- Smoke numbers corrected for fuel aromatics volume.
- GE Report R2003AE462
- Certification in accordance with Part III, Chapter 2, of Amendment 7 of ICAO Annex 16 Vol. II.
- NO_x levels in accordance with Part III, Chapter 2, 2.3.2 d) (CAEP/6)

Compliance with Fuel Venting requirements: -

('x' if complies, 'PR' if pre-regulation, '-' if information is not available)